

IN THE CLAIMS:

Please amend claims 13-32 as follows:

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Cancelled)

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Currently Amended) A method for processing an a-received-audio signal, comprising
the steps of:

band-limiting the received audio signal to generate a first intermediate signal;
multiplying the said-first intermediate signal by a correction factor to generate a second intermediate signal;
amplifying the said-second intermediate signal by an amplification factor to generate a third intermediate signal;
limiting the amplitude of the said-third intermediate signal to a predetermined specified maximum value to generate a fourth intermediate signal;
providing the correction factor as a feedback signal that is a function of the third intermediate signal;
band-limiting the said-fourth intermediate signal to generate a fifth intermediate signal;
and
adding the said-fifth intermediate signal to the said-received audio signal.

14. (Currently Amended) The method of claim 13, further comprising the step of:
adjusting the said-correction factor based on whether the said-third intermediate signal exceeds a predetermined threshold value.

15. (Currently Amended) The method of claim 14, wherein the step of said-adjusting the said correction factor further comprises the step of:
reducing the said-correction factor when the said-third intermediate signal exceeds the said-predetermined threshold value.

16. (Currently Amended) The method of claim 145, wherein the step of said-adjusting the

said-correction factor further comprises the step of:

increasing the said-correction factor when the said-third intermediate signal is less than does not exceed the said-predetermined threshold value.

17. (Currently Amended) The method of claim 14, wherein said the step of adjusting the said correction factor further comprises the steps of:

generating a control variable based on the said-amplitude of the said-third intermediate signal; and

generating the said-correction factor as a function of the said-control variable.

18. (Currently Amended) The method of claim 17, wherein said the step of generating the a correction factor as a function of the said-control variable further comprises the step of low-pass filtering the control variable to generate the correction factor.is performed by a low-pass filter.

19. (Currently Amended) The method of claim 13, wherein said the step of limiting the amplitude of the said third intermediate signal to a specified maximum predetermined value comprises the steps of:

generating harmonics of low-frequency signal components of said the received audio signal; and

weighting said the harmonics with a variable factor.

20. (Currently Amended) The method of claim 19, wherein said the step of weighting the said harmonics with a variable factor further comprises the step of:

generating the said-variable factor as a function of the said-third intermediate signal.

21. (Currently Amended) The method of claim 1920, wherein ~~said~~ the step of generating harmonics further comprises the step of:

increasingly generating harmonics at the beginning of a low-frequency signal.

22. (Currently Amended) The method of claim 20, wherein ~~said~~ the step of generating the said-variable factor as a function of the said-third intermediate signal further comprises the steps of:

detecting a peak value of the said-third intermediate signal in accordance with a predetermined function of the said-third intermediate signal to generate a sixth intermediate signal;

low-pass filtering the said-sixth intermediate signal separately with first and second time constants to generate first and second low-pass filtered signals; and

generating a difference signal between the first and second of the two low-pass filtered signals, wherein ~~said~~ the difference signal is generated as the said-variable factor.

23. (Currently Amended) The method of claim 220, wherein ~~said~~ the step of weighting further comprises the steps of:

determining an absolute value of the said-third intermediate signal;

multiplying the said-absolute value of the said-third intermediate signal with the said variable factor to generate a seventh intermediate signal;

adding to the said-third intermediate signal to the said-seventh intermediate signal to form an eight intermediate valuesignal; and

limiting amplitudes of the said eight intermediate value signal to a specified value.

24. (Currently Amended) A circuit for processing an input audio signal received at an input of the circuit to provide at an output of the circuit a processed audio signal, the circuit comprising:

a first adder having first and second inputs and an output at which the processed audio signal is provided;

a first conductive path connecting the circuit input to the said-first input of the said-first adder, where the said-first conductive path is constructed and arranged to deliver the said received audio signal unaltered to the said-first adder; and

a second conductive path connecting the said-circuit input to the said-second input of the said-first adder, the said-second conductive path including-comprising,

a first bandpass filter having an output and an input connected to the said-circuit input;

a multiplier having a first input connected to the said-first bandpass filter output, and a second input, and an output;

a variable amplifier, having an output and an input connected to the said multiplier output, for amplifying a signal received at the said-amplifier input in accordance with an amplification factor presented at a control input of the said-amplifier;

a first nonlinear circuit having an output and an input connected to the said amplifier output, the said-nonlinear circuit limiting to a predetermined value specified maximum the amplitude of the amplifier output a signal presented at said first nonlinear circuit input; and

a second bandpass filter having an input connected to the said nonlinear circuit output and an output defining said circuit network output of the second conductive path; and

a first function generator having an input connected to a control output of the said first nonlinear circuit, and an output connected to the said multiplier second input of the multiplier, where the first function generator provides a feedback signal representative of a correction factor to the second input of the multiplier, and where the feedback signal is a function of a signal at the control output of the first nonlinear circuit.

25. (Currently Amended) The circuit arrangement of claim 24, wherein said the first function generator comprises a first low-pass filter.

26. (Currently Amended) The circuit arrangement of claim 24, wherein said the first nonlinear circuit further comprises:

a second nonlinear circuit having an input and output connected to the said input and output, respectively, of the said first nonlinear circuit, a control output defining the said control output of the said first nonlinear circuit, and a control input to which the said second nonlinear circuit is responsive; and

a second function generator having an input connected to the said input of the said first nonlinear circuit and an output connected to the said control input of the said second nonlinear circuit.

27. (Currently Amended) The circuit arrangement of claim 26, wherein said the second function generator comprises:

a peak value detector circuit having an output and an input connected to the said-second function generator input;

a second low-pass filter having an output and an input connected to the said-peak value detector output;

a third low-pass filter having an output and an input connected to the said-peak value detector output;

a subtractor having first and second inputs connected to the said-outputs of the said second and third low-pass filters, respectively, and an output; and

a first limiter circuit having an input connected to the said-subtractor output, and an output connected to the said-second function generator control input of the second nonlinear circuit.

28. (Currently Amended) The circuit arrangement of claim 27, wherein said the second nonlinear circuit comprises:

an absolute value forming circuit having an output and an input connected to the said-first nonlinear circuit input;

a second multiplier having a first input connected to the said-first limiter circuit output and a second input connected to the said-absolute value forming circuit output;

a second adder having an output, a first input connected to the said-first nonlinear circuit input, and a second input connected to the said-second multiplier output; and

a second limiter circuit having an input connected to the said-second adder output, a control output connected to the said-first function generator, and an output connected to the said second bandpass filter input.

29. (Currently Amended) A circuit for processing an input audio signal received at an input of the circuit to provide at an output of the circuit a processed audio signal, the circuit comprising:

means for band-limiting the received audio signal to generate a first intermediate signal;

means for multiplying the first intermediate signal by a correction factor to generate a second intermediate signal;

means for amplifying the second intermediate signal by an amplification factor to generate a third intermediate signal;

means for limiting the amplitude of the said-third intermediate signal to a predetermined specified maximum value to generate a fourth intermediate signal;

means for providing the correction factor as a feedback signal that is a function of the third intermediate signal;

means for band-limiting the said-fourth intermediate signal to generate a fifth intermediate signal; and

means for adding the said-fifth intermediate signal to the said-received audio signal.

30. (Currently Amended) The circuit of claim 29, further comprising:

means for adjusting the said-correction factor based on whether the said-third intermediate signal exceeds a predetermined threshold value.

31. (Currently Amended) The circuit of claim 30, wherein said the adjusting means comprises:

means for reducing the said-correction factor when the said-third intermediate signal exceeds the said-predetermined threshold value, and for increasing the said-correction factor when the said-third intermediate signal is less than does not exceed the said-predetermined threshold value.

32. (Currently Amended) A circuit for processing an input audio signal received at an input of the circuit to provide at an output of the circuit a processed audio signal, the circuit comprising:

a first conductive path through which the received audio signal travels;

a second conductive path through which the received audio signal travels, wherein the audio signal is processed such that harmonics of the signal components with a low-frequency are generated in the second conductive path and are admixed to the signal in the first path, wherein in the second path the audio signal is sequentially bandpass filtered, weighted with a correction factor, amplified, limited to a predetermined maximum-value, and bandpass filtered, wherein the correction factor is reduced when the predetermined maximum-value is exceeded, and where the correction factor is provided as a feedback signal that is a function of the amplified audio signal.